Few bridges draw attention like one spanning Dearborn

The Dearborn River High Bridge was built in 1897.

Few bridges in Montana have drawn as much attention and interest as the Dearborn River High Bridge. Located in a spectacular canyon approximately 18 miles south of August on Montana Secondary 434, the bridge is one of only a few examples of this design remaining in the United States. As such its historical and engineering significance is exceptional and worth further mention.

Called a half-deck truss, the bridge is a standard Pratt truss with the deck attached midway on the superstructure rather than to the top or bottom cords as is common to truss bridges. Developed in the mid-1840s, the Pratt truss provided a low-maintenance, durable and easily prefabricated bridge that could accommodate the expanding railroad and highway systems in the United States. One of the first scientifically designed truss-types, engineers modified the design until it was the standard all-steel truss bridge on both railroads and highways by 1890. The majority of steel highway bridges constructed in the United States during the first 25 years of the 20th century were Pratt trusses.

Part of the appeal of the truss was the pin-connections. Instead of rivets, pins held together many of Montana's early bridges. This simplified the construction process and allowed the easy prefabrication of bridge components by the eastern factories. Pin-connections were standard to truss bridges until about 1909.

Even considering the large number of Pratt truss bridges built and still remaining in Montana, the Dearborn River High Bridge design is unusual. The bridge spans a river chasm, which made the use of a through truss difficult. By the 1920s, the Montana Department of Transportation commonly used deck truss bridges to span similar obstacles (modern deck truss bridges are located on Orange Street in Missoula and at Gardiner). The Dearborn River Bridge is, essentially, an early form of the deck truss. The type of bridge was ideal for use on this kind of crossing.

The King Bridge Company of Cleveland, Ohio built the Dearborn River High Bridge in 1897. he company built at least nine other bridges in Montana between 1892 and 1901. Because of its field office in Minneapolis, the company enjoyed direct access to Montana by either the Northern Pacific Railway, or, in the case of this bridge, the Great Northern Railway. It is not known why the company or county commissioners selected this design, but it may have had something to do with the terrain. Deck truss bridges, similar to this one, are designed to carry relatively light loads across deep

crossings. Because the bridge was built during the horse and buggy days, it was probably designed to county bridge standards that consisted of a load limit of "one dead-axe wagon load of six tons."

The bridge consists of four spans, including the 160-foot half-deck truss. It is 16-feet wide and has plank deck supported by timber stringers an steel I-beam floor beams. The main span rests on concrete piers encased by steel - common to bridges built in Montana before 1915.

The bridge is located on the old road between Helena and Great Falls. Secondaries 434 and 435 were originally designated a "Federal Aid Primary" route shortly after the creation of the Montana Highway Commission in 1913. By 1922, however, Lewis and Clark County, with the guidance of the Highway Commission, established a shorter route to Great Falls (old U.S. Highway 91). The road between Wolf Creek and Augusta then served as a major route to Choteau and points north. The old road again reverted to county jurisdiction with the completion of U.S. Highway 287 in the mid-1930s. From the 1860s to 1936 the old road provided an important transportation corridor between the farms and ranches north of Helena and Great Falls. The Dearborn River High Bridge was an important component of that road. It survives as an excellent example of a rare bridge type and serves as a reminder of the early days of transportation in Montana.

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